Langlois

Langlois Overview

Volunteer monitoring began at Lake Langlois in water year 2001 and continued through 2004. The data indicate that this lake is relatively low in primary productivity (oligotrophic) with excellent water quality.

Lake Langlois has a public access boat launch. Lake users and residents should monitor the shallow areas for Eurasian milfoil, Brazilian elodea and other noxious aquatic weed invaders.

Physical Parameters

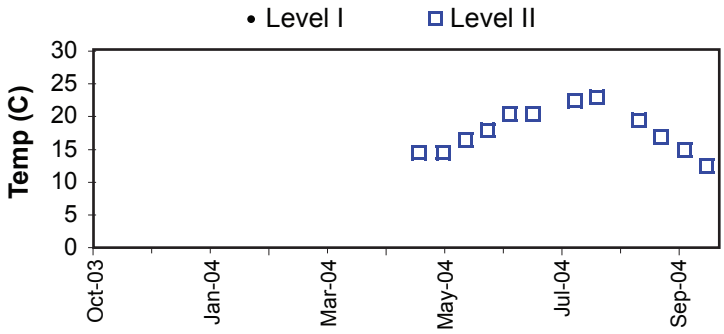
Secchi transparency ranged between 5.5 and 8.4 m through the sample season, averaging 7.2 m, which was the highest clarity of all the small lakes monitored in 2004. Surface water temperatures reached 23.0 degrees Celsius during the same period, which was in the lower range of the group.

Water level and precipitation data were not collected for the year.

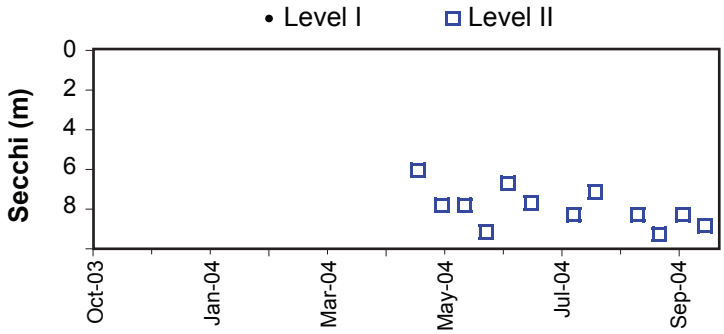
Nutrient Analysis and TSI Ratings

Total phosphorus and total nitrogen remained relatively stable and in proportion to each other through the sampling period. The N:P ratio ranged from 27 to 71, averaging 47 which signaled poor growing conditions for nuisance bluegreens.

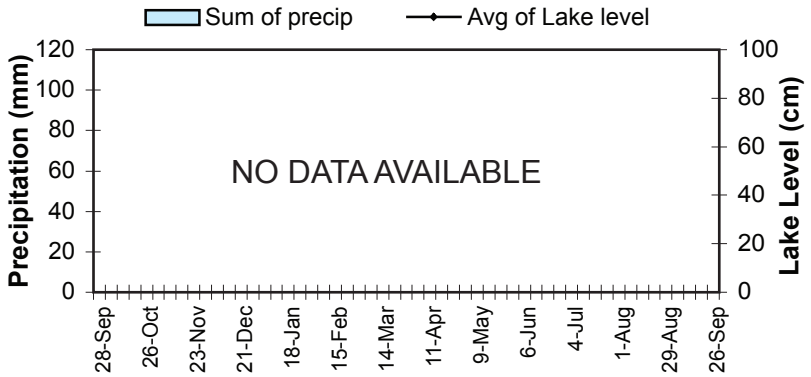
Lake Temperature



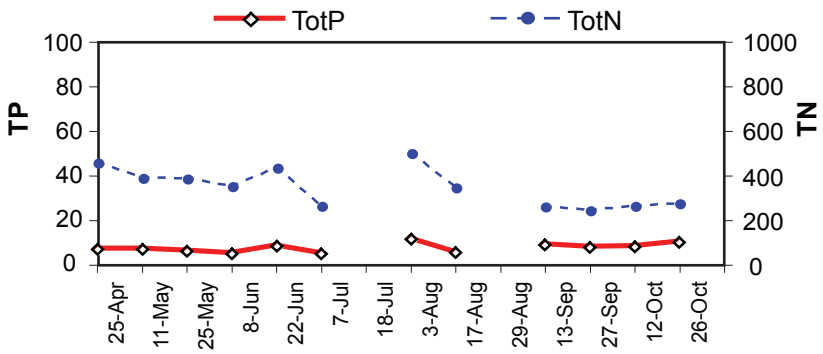
Secchi Depth



Lake Level and Precipitation



Nutrient Analysis



Profile data indicate that thermal stratification was present early in the season and persisted through the summer. There is some evidence that Lake Langlois never mixes completely, and the extremely high phosphorus concentration in the bottom water in May is consistent with that hypothesis. Chlorophyll data indicated that algae were higher in abundance in the middle of the water column, possibly at or below the thermocline since the water clarity makes it possible for light to penetrate to the hypolimnion.

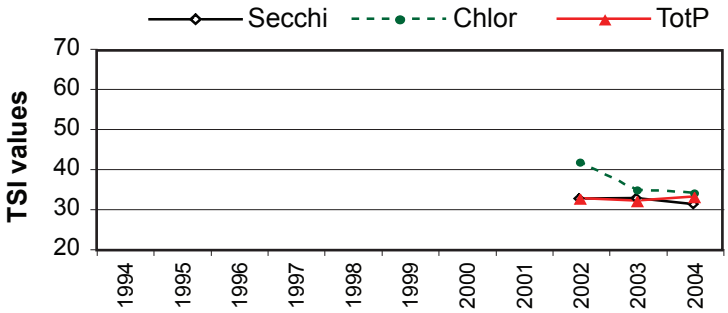
The 2004 TSI values were close together, well below the threshold between mesotrophy and oligotrophy, similar to 2003.

Chlorophyll Concentrations and Algae

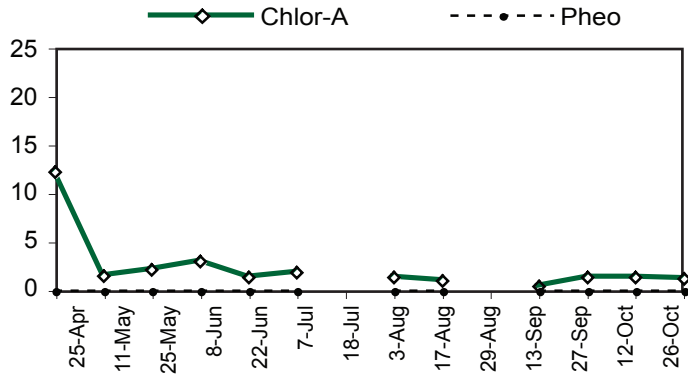
Chlorophyll content at 1m was at its highest in the first sample in late April, dropping to consistently low values throughout the rest of the sample season. The algae were dominated by an unidentified chrysophyte taxon, accompanied by the colonial bluegreens *Anacystis* and *Chroococcus* and by the diatoms *Asterionella formosa* and *Cyclotella.*

Date	Secchi	depth-m	degC	Chlor-A	TP µg/L	TN µg/L
5/25/04	7.1	1	16.5	2.24	6.2	389
		14	4.5	29.60	225.0	2800
		28	4.5		4750.0	76300
9/12/04	7.5	1	19.5	1.90	7.7	239
		14	5.5	7.21	26.2	369
		25	4.5			

TSI Ratings



Chlorophyll a Concentrations (ug/L)



Common Algae

	Group
Unidentified cells	Chrysophyta
Chroococcus sp	Cyanobacteria
Anacystis sp	Cyanobacteria

Langlois

2004 Level I Data not available

2004 Level II Data

Date (2004)	Temp (°C)	Secchi (m)	Chl-*a* (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI		
								Secc	chl-a	TP
25-Apr	14.5	5.5	12.30	7.0	461	3	66	35.4	55.2	32.2
11-May	14.5	7.1	1.60	7.1	394	2	55	31.7	35.2	32.4
25-May	16.5	7.1	2.24	6.2	389	1	63	31.7	38.5	30.5
8-Jun	18.0	8.3	3.04	<detect	356	2	71	29.5	41.5	27.4
22-Jun	20.5	6.1	1.40	8.6	439	1	51	33.9	33.9	35.2
7-Jul	20.5	7.0	1.90	<detect	268	1	54	31.9	36.9	27.4
18-Jul										
3-Aug	22.5	7.5	1.40	11.8	505	1	43	30.9	33.9	39.8
17-Aug	23.0	6.5	1.10	5.8	350	1	60	33.0	31.5	29.5
29-Aug						1				
13-Sep	19.5	7.5	<detect	9.0	265	1	29	30.9	23.8	35.8
27-Sep	17.0	8.4	1.40	8.1	249	1	31	29.3	33.9	34.3
12-Oct	15.0	7.5	1.40	8.3	267	1	32	30.9	33.9	34.7
26-Oct	12.5	8.0	1.30	10.3	280	1	27	30.0	33.1	37.8
	Temp (°C)	Secchi (m)	Chl-*a* (µg/l)	TP (µg/l)	TN (µg/l)	Algae	N:P	Calculated TSI		
								Secc	chl-a	TP
Mean	17.8	7.2	2.6	8.2	351.9	1.3	49	31.6	35.9	33.1
Median	17.5	7.3	1.4	8.2	353.0	1	52	31.3	33.9	33.4
Min	12.5	5.5	1.1	5.8	249.0	1	27	29.3	23.8	27.4
Max	23.0	8.4	12.3	11.8	505.0	3	71	35.4	55.2	39.8
Count	12	12	11	10	12	13	12	12	12	12

TSI Average = 33.5